

REMARKS

Applicant expresses appreciation to the Examiner for consideration of the subject patent application. This Response is to the final Office Action mailed August 2, 2004. Claims 1-3, 5-8 and 17-19 were rejected. Claims 4, 9-16, 20 have been pursued in the original case and were previously canceled. Claims 1, 3, 17 and 18 have been amended in this Response. New Claims 21 and 22 have been added. Claims 1-3, 5-8 and 17-19, 21, 22 remain pending in the case. Applicant respectfully requests the Examiner to reconsider the final rejection in this case and to allow the pending claims.

Introduction

The present invention is directed to a multipath printer system that has the capability of duplex printing. Three media paths are provided for carrying a sheet of print media from a sheet pickup mechanism to the printer device, carrying the sheet from the printer device to a sheet exit opening and carrying the sheet from the exit opening back to the printer device. A sheet diverter has first and second operating positions to allow the sheet to pass in a first flow direction and to divert the sheet as it travels in a second flow direction. A sheet pickup mechanism has a first operating position in which a roller of the mechanism has a rotational axle that is moved to a lower horizontal level so that the pickup mechanism may pick up the sheet from the dispensing tray. The sheet pickup mechanism has a second operating position in which the rotational axle of the roller is moved to an upper horizontal level above the lower horizontal level with the roller at substantially the same level as a duplex printing path, so that the mechanism serves as part of a duplex printing path when the sheet travels in the second flow direction toward the print device.

With respect to the sheet pickup mechanism described above in claim 1, by way of example, reference is made to Figures 1(a) and (b) and 2(a) and (b) showing the sheet pickup mechanism 58 in two distinctively differently oriented operating positions. In the first operating position shown in Figures 1(a) and (b), the axle of the front roller 58B of mechanism 58 is lowered to a lower level 88 so that the axle is within a dispensing tray and the belt 58A will come into contact with sheets in the dispensing tray. Rollers 58B and 58C rotate in a clockwise direction to dispense a sheet from the dispensing tray. See page 9, line 18 through page 10, line 8. Also see page 13, lines 1-10, and page 19, lines 1-19. In the second operating position shown

in Figures 2(a) and (b), the axle of the front roller 58B is raised to a higher level substantially horizontal at level 88 with the rearward pickup roller axle 58C rotating in a counterclockwise direction to convey the sheet to the printer device for duplex printing. See page 12, lines 25-32, page 15, lines 25-32 and page 16, lines 1-19.

Office Action - Claim Rejections - 35 U.S.C. § 102

Claims 1, 5, 6, 17 and 18 were rejected on the basis of 35 U.S.C. Section 102(b) as being anticipated by Yoshikado et al. (US Patent No. 5,055,885). The Examiner pointed out that Yoshikado discloses a printer having a plurality of media paths that carry a sheet from a tray to a printer device and then to a sheet exit opening. The Examiner further pointed out that Yoshikado discloses a media path that carries the sheet from the exit opening back to the printer device for duplex printing, and further stated that Yoshikado shows a diverter that allows the sheet to pass in a first flow direction and diverts the sheet in a second flow direction.

With regard to the sheet pickup mechanism disclosed in the present application, the Examiner states:

A feeding roller (8), which reads on a sheet pickup mechanism, has a first operation position, shown in figure 19, wherein the mechanism picks up the sheet from a sheet dispensing tray, and a second operating position, shown in figure 6, wherein the mechanism serves as part of a duplex printing path when the sheet travels in the second flow direction, toward the printer device (3).

Final Office Action, page 3. Looking at FIGs. 19 and 6 of Yoshikado, reveals that the only change in position of the feeding roller 8 is a counter-clockwise rotation of the roller in Figure 19. The figures simply demonstrate that the feeder roller rotating when in operation. "As shown in FIG. 19, in which the same parts are represented as those in FIG. 18, when the feeding roller 8 rotates, the sheet of paper a, indicated by a solid line, is moved out of the paper cassette 7." Yoshikado, col. 2, ln. 5. The locational position of the feeder roller 8 does not differ between FIG. 18 and FIG. 6, as in the present invention. Rather the feeder roller 8 of Yoshikado stays in the same location at all times. It is clear that the feeding roller 8 does not change locations.

In contrast, the sheet pickup mechanism disclosed in the current application, "In its first operating position, the sheet pickup/transport device 58 has an inclined orientation such as that

depicted by the phantom lines employed in Figure 2(b).” Eskey Specification, pg. 13, ln. 1-3. “In its second operating position, the device 58 has a substantially horizontal orientation such as that shown in Figure 1(d).” See the current specification, page 12, lines 27-29. This is accomplished by a roller of the pickup mechanism, namely roller 58B changing positions. In the first operating position, the axle of roller 58B is dropped to a lower horizontal level so that a sheet can be picked up by the mechanism. In the second operating position, the axle of roller 58B is raised to an upper horizontal level above the lower horizontal level that is substantially at the same level as a duplex printing path, to assist in transporting a sheet to the printer device. See pages 12, line 25 through page 13, line 10 of the current specification. From these two different physical positions, the sheet pickup mechanism is able to perform two distinct operations.

Another point of distinction between the feeder roller disclosed in Yoshikado and the sheet pickup mechanism in the present application is that the feeder roller in Yoshikado only rotates in one direction. “Because force is only applied to the paper a in one direction by the feeder roller 8, the paper a will not be susceptible to skew.” Yoshikado, col. 7, ln. 2-4. The sheet pickup mechanism disclosed in the current application rotates in two directions. In the first operating position, the rollers 58B and 58C rotate in a clockwise direction to pick up a sheet from the dispensing tray. In the second operating position, the rollers 58B and 58C rotate in a counterclockwise direction to send the sheet being duplexed toward the printer. Thus, the rollers rotate in one direction to perform a sheet pickup function and the opposite direction for a sheet transport function.

Looking at claim 1, the description at step 7 has been clarified by noting that the second operating position involves a roller having a rotational axle at a lower horizontal level to pick up a sheet from the dispensing tray. The second operating position involves the rotational axle of the roller being raised to an upper horizontal level above the lower horizontal level so that the roller is substantially in line with a duplexing path to serve as part of the duplex path to direct the sheet in a duplexing operation toward the printer. As discussed above, the Yoshida patent does not show this arrangement. Thus, claim 1 clearly distinguishes over the Yoshikado patent.

Claim 2 is dependent on claim 1 and is therefore allowable for the reasons given above. Claim 3 has been amended to provide that the roller of the pickup mechanism rotates in a first direction in the first operating position and rotates in a second position in the second operating position. This is an additional distinction over Yoshikado, and provides a further basis for making claim 3 allowable.

Claims 5 and 6 are dependent on claim 1 and therefore also distinguish over Yoshikado for the reasons given above.

Claim 17 is an independent method claim that includes, at step 6, the sheet pickup mechanism being in a first operating position wherein a roller in the mechanism has a rotational axle that is positioned at a lower horizontal level for picking up a sheet from the dispensing tray. The pickup mechanism operates in a second operating position, wherein the rotational axle of the roller axis is positioned at an upper horizontal level that is above the lower horizontal level, so that the roller is substantially at a level of a duplex path to serve as part of the duplex path to transport the sheet towards the printer. As mentioned above, Yoshikado does not disclose such a method. Rather, in Yoshikado a pickup mechanism is shown having a roller in a single location that simply rotates in one direction, as best seen in Figures 18, 19 and 25. Thus, claim 17 clearly distinguishes over the Yoshikado patent.

Claim 18 is dependent on claim 17 and provides more specificity regarding the pickup mechanism. The roller of the pickup mechanism rotates in a first direction during the first operation and rotates in a second direction in the second operating step. This action is clearly not shown in Yoshida.

Office Action - Claim Rejections - 35 U.S.C. § 103

Claims 2 and 3 were rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshikado et al. (U.S. Pat. 5,055,885) in view of Watanabe (U.S. Pat. 4,755,855). The Yoshida reference was cited for disclosing a printer as discussed above, and Watanabe was cited as disclosing an image forming apparatus having three paper supply cassettes, which provide three sheet entry openings in the housing which a sheet can be delivered for transport to the printer device. Applicant respectfully submits that neither Yoshikado nor Watanabe separately or in

combination disclose a pickup mechanism having two operating positions as discussed above. Therefore, it is submitted that neither Yoshikado nor Watanabe together or separately render the invention claimed in claim 1 obvious. Since claims 2 and 3 are dependent on claim 1, it is submitted that these two claims also are not rendered obvious by the combination of Yoshikado and Watanabe.

Claims 7 and 8 were rejected on the basis of 35 U.S.C. Section 103(a) as being unpatentable over Yoshikado et al. (US Patent No. 5,055,885) in view of Yoshida et al. (US Patent No. 5,678,157). Yoshida was cited for concept of disclosing two sheet dispensing trays. Applicant respectfully submits that neither Yoshikado or Yoshida alone or together do not show a pickup mechanism having two operating positions at different locations as discussed above. Therefore, it is submitted that neither Yoshikado and Yoshida separately or together render the invention claimed in claim 1 obvious. Since claims 7 and 8 are dependent on claim 1, it is submitted that these two claims also are not rendered obvious by the combination of Yoshikado and Yoshida.

Claim 19 was rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshikado et al. (US Patent No. 5,055,885) in view of Nelson (US Patent No. 4,924,275). Nelson was cited for the concept of providing duplex printing by dispensing sheets from a dispensing tray and delivering the sheets to a collection tray. Since claim 19 is dependent on claim 17, it distinguishes over the Yoshikado patent for the reasons stated above. It is therefore submitted that the combination of Yoshikado and Nelson do not disclose or render obvious claim 19. Thus, claim 19 is also allowable over these references.

New independent claim 21 has been added having structure similar to the independent claim 1 in the preliminary amendment, except that the pickup mechanism includes a roller having a first operating position with the roller rotating in a first direction to pick up a sheet from a dispensing tray and having a second operating position wherein the roller rotates in a second direction different from the first direction to serve as part of a duplex printing path to convey the sheet to the printer. As described above, the references do not show such a structure. Accordingly, claim 21 is allowable.

Similarly, independent claim 22 has been added describing a method similar to the independent claim 17 in the preliminary amendment, except that the pickup mechanism includes a roller having a first operating position wherein the roller is rotated in a first direction to pick up a sheet from a dispensing tray, and having a second operating position wherein the roller is rotated in a second direction different from the first direction to serve as part of a duplex printing path to convey the sheet to the printer. As described above, the references do not show such a method. Accordingly, claim 22 is allowable.

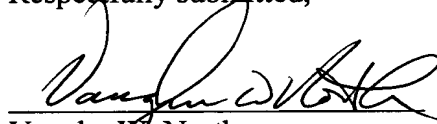
CONCLUSION

In light of the above amendments and comments, Applicant respectfully submits that pending claims 1-3, 5-8, 17-19, 21, and 22 are now in condition for allowance. Therefore, Applicant requests that the objections be withdrawn, and that the claims be allowed and passed to issue. If any impediment to the allowance of these claims remains after entry of this Amendment, the Examiner is strongly encouraged to call Vaughn North at (801) 566-6633 so that such matters may be resolved as expeditiously as possible.

The Commissioner is hereby authorized to charge any additional fee or to credit any overpayment in connection with this Amendment to Deposit Account No. 08-2025.

DATED this 4th day of October, 2004.

Respectfully submitted,



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